

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

7-14-94

JUL 14 1994

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Linuron: Dietary Exposure Analysis in Support of the Reregistration Eligibility Decision

FROM: James P. Kariya *Kariya*
Dietary Risk Evaluation Section
Science Analysis Branch

TO: John Redden, Chemical Manager for Linuron
Reregistration Section
Chemical Coordination Branch

W.B.

Action Requested

Provide an estimate of exposure from acute and chronic ingestion of linuron through the diet, and compare exposure to toxicological reference points.

Toxicological Endpoints

1. Chronic exposure: A Reference Dose of 0.008 mg/kg/day was established by the Health Effects Division RfD/Peer Review Committee based on a one-year feeding study in dogs in which a No Observed Effect Level (NOEL) of 0.77 mg/kg/day was demonstrated (memorandum, G.Z. Ghali to R. Taylor and L. Rossi, 1-3-94). Hematological changes were observed at the next highest dose. An uncertainty factor of 100 was used to account for inter-species extrapolation and intra-species variability.

2. Carcinogenicity: The Agency has determined that the weight of evidence suggests that linuron's carcinogenic potential in humans is weak, and that linuron should not be regulated as a carcinogen (Federal Register, 54(17):4072, 1-27-89).

DRES notes that in January, 1993 there was discussion of the carcinogenic risk that may be associated with the impurity



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The Health Effects Division Metabolism Committee discussed the possible significance of 3,4-dichloroaniline residues in plants and animal tissues resulting from treatment with linuron. The Committee expressed concern that 3,4-DCA may be an oncogen in light of the fact that p-chloroaniline is a quantifiable oncogen. Because of the low levels found, however, the Committee decided that 3,4-DCA was not of regulatory concern "in connection with the registered use of linuron." (Memo, D. McNeilly to Metabolism Committee Members, 11-17-93.)

3. Acute exposure: The Toxicology Endpoint Selection Document for Linuron (M. Van Gemert, 3-14-84) specifies that a NOEL of 25 mg/kg/day for developmental toxicity in rabbits should be used for acute dietary analyses.

Residues

Anticipated Residues from the 1987 Special Review of Linuron were used in the analysis of chronic exposure, as recommended by Chemistry Branch -- Reregistration Support (memorandum, D. McNeilly to L. Rossi and E. Saito, 2-15-94). The specific values were taken from J. Garbus' memo of 6-1-87 to S. Saunders ("I.D. No. 03506: Linuron: Reregistration and Special Review: Request for Dietary Risk Assessment").

Information on percent of crop treated was supplied by the Biological and Economic Analysis Division (table prepared by G. Ali, December 1993, entitled "Typical Annual Usage (1992) and Percentage of various U.S. Crops Treated with Linuron"). For most crops, the estimate of percent crop treated is the same as or lower than the 1989 estimates provided by BEAD. However, no estimates were supplied for "small grains" in the 1993 table, whereas the estimate was "< 1%" in 1989. In cases where no estimates are supplied, DRES' policy is to assume that 100% of the crop is treated. Thus, the percent of crop treated value used in the DRES run went from 1% to 100% for barley, oats, and rye. DRES believes that this is likely to be an overestimate, and that the acute (domestic) use on these crops may even be 0% since there are no registered products for these uses. However, in the absence of confirmation from BEAD, the default value of 100% was assumed.

Although this DRES analysis uses Anticipated Residues and percent of crop treated where available, a separate part of the analysis uses tolerances to estimate theoretical maximum exposure. The Chemistry Chapter of the RED reassessed several tolerances and suggested that they should be revoked (barley, oats, rye, and popcorn) or that there were insufficient data to support a tolerance (asparagus, sheep). In these cases, the DRES analysis used the existing tolerance rather than the reassessed tolerance. The resulting Theoretical Maximum Residue Contribution is thus likely to be higher than what would be expected if all of the tolerances suggested in the tolerance reassessment were implemented. (It is possible, however, that a

reassessed tolerance for asparagus and sheep could raise exposure above what is estimated in the TMRC.)

For the acute dietary exposure analysis, tolerance values were used. Anticipated residues for acute analysis were not provided. Information on percent of crop treated was not used.

Proposed tolerances for lettuce, ginger, and taro, and proposed tolerance revisions for potatoes and meat byproducts, cited in the Chemistry Chapter of the RED, have apparently not been reviewed by the Chemistry Branch yet and are not included in this DRES analysis.

No residue levels for impurities were provided to DRES.

Results

Chronic exposure: Exposure to the general population over the long term is expected to be approximately 0.000185 mg/kg bodyweight/day, or 2% of the Reference Dose. Of the standard subgroups routinely analyzed by the Dietary Risk Evaluation System, the two subgroups with the highest exposures are non-nursing infants less than 1 year old, with expected exposures of 0.000485 mg/kg/day (6% of the RfD), and children 1 through 6 years old, with expected exposures of 0.000343 mg/kg/day (4% of the RfD).

Acute exposure: High-end exposure to females 13 years of age or older (DRES' approximation of women of childbearing age) on any given day is expected to be 0.015 mg/kg/day, or 1667 times the NOEL for developmental toxicity. Mean exposure is expected to be 0.00365 mg/kg/day, or more than 7400 times the NOEL for developmental toxicity. Nearly 100% of women in this age group eat at least one commodity which has a tolerance level for linuron.

Discussion

Chronic exposure: Exposure is well below the RfD for the general population and all subgroups routinely analyzed by the Dietary Risk Evaluation System when Anticipated Residues and percent of crop treated estimates are used. Risk of effects from chronic exposure appears to be minimal if all assumptions used in the analysis are accurate.

Acute exposure: The Margin of Exposure (the ratio between the NOEL and expected exposure) is well above 100. The Agency generally has little or no concern when the MOE is above 100 when the NOEL is from an animal study, as it is in this case.

The estimate of acute exposure is likely to be an overestimate inasmuch as it assumes that consumers will eat tolerance levels of linuron residue on all items simultaneously.

This is an unlikely occurrence, given that less than 100% of an given crop is treated with linuron, and that residues are rarely at tolerance level on all fields that are treated.

Carcinogenicity: It is not clear that all issues relating to the possibility of cancer from impurities have been resolved. DRES notes that although 3,4-DCA appears not to be a concern, and although the January 1993 estimate of upper-bound carcinogenic risk was very low (on the order of 10^{-9} ; memo W. Burnam to R. Taylor, 1-15-93), the latter estimate was based only on the presence of tetrachlorodibenzofuran and not on the possible presence of nitrosamines. The possibility of nitrosamine formation was raised by the Product Chemistry Chapter (included in the 2-15-94 memo of D. McNeilly to L. Rossi and E. Saito), page 9, footnote "e"). Some nitrosamines are carcinogenic.

cc: Caswell 528, CBRS, Tox 2, DRES.

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 528

DATE: 07/14/94

PAGE: 1

CHEMICAL	STUDY TYPE	EFFECTS	ADI	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Linuron Caswell #528 CAS No. 330-55-2 A.I. CODE: 035506 CFR No. 180.184	1yr feeding-dog NOEL= 0.7700 mg/kg LEL= 25.00 ppm ONCO: C (HED); C (CAG)	Hematology changes Positive onco in rat- interstitial cell tumors.	OPP Rfd= 0.008000 EPA Rfd= 0.002000	UF -->100 No data gaps. q* not applicable.	HED complete 02/21/86 EPA verified 05/14/86 Rfd/PR reviewed 02/21/92 Rfd/PR reviewed 06/10/93	On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOXICITY (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
13002AA	CELERY	10 RAW-FRESH OR NFS 21 COOKED-NFS	1E1148	P 0.500000	0.050000 MAX. FIELD RES.	20.00	0.010000	
13002AA	CELERY	00 NOT SPECIFIED (NO CONSUMPTION)	1E1148	P 0.500000	0.050000 MAX. FIELD RES.	20.00	0.010000	
13016AA	FENNEL	10 RAW-FRESH OR NFS	1E1148	P 0.500000	0.500000 INSUF. DATA	100.00	0.500000	
13022AA	PARSLEY	21 COOKED-NFS	6E3416	P 0.250000	0.250000	100.00	0.250000	
13022AA	PARSLEY	53 COOKED-CANNED-BOILED	6E3416	P 0.250000	0.250000	100.00	0.250000	
13022AA	PARSLEY	10 RAW-FRESH OR NFS	6E3416	P 0.250000	0.250000	100.00	0.250000	
14003AA	CARROTS	21 COOKED-NFS	413	P 1.000000	0.160000 MEAN FIELD RES.	60.00	0.096000	
14003AA	CARROTS	23 COOKED-FRESH-BOILED	413	P 1.000000	0.160000 MEAN FIELD RES.	60.00	0.096000	
14003AA	CARROTS	31 COOKED-FRESH OR CANNED	413	P 1.000000	0.160000 MEAN FIELD RES.	60.00	0.096000	
14003AA	CARROTS	51 COOKED-CANNED	413	P 1.000000	0.160000 MEAN FIELD RES.	60.00	0.096000	
14013AA	POTATO(WH)-WHOLE	10 RAW-FRESH OR NFS	413	P 1.000000	0.050000 MEAN FIELD RES.	7.00	0.003500	
14013AA	POTATO(WH)-WHOLE	21 COOKED-FRESH-BAKED	413	P 1.000000	0.050000 MEAN FIELD RES.	7.00	0.003500	
14013AA	POTATO(WH)-UNSPE	22 COOKED-FRESH-BAKED	413	P 1.000000	0.050000 MEAN FIELD RES.	7.00	0.003500	
14013AB	POTATO(WH)-PULP	21 COOKED-FRESH-BAKED	413	P 1.000000	0.050000 MEAN FIELD RES.	7.00	0.003500	
14013AC	POTATO(WH)-PULP	22 COOKED-FRESH-BAKED	413	P 1.000000	0.050000 MEAN FIELD RES.	7.00	0.003500	
14013AC	POTATO(WH)-PULP	23 COOKED-FRESH-BOILED	413	P 1.000000	0.050000 MEAN FIELD RES.	7.00	0.003500	
14013AC	POTATO(WH)-PULP	25 COOKED-FRESH-FRIED	413	P 1.000000	0.050000 MEAN FIELD RES.	7.00	0.003500	
14013DA	POTATO(WH)-DRY	10 RAW-FRESH OR NFS	413	P 1.000000	0.050000 MEAN FIELD RES.	7.00	0.003500	
14013DA	POTATO(WH)-DRY	31 COOKED-FRESH OR CANNED	413	P 1.000000	0.050000 MEAN FIELD RES.	7.00	0.003500	
14013DA	POTATO(WH)-PEEL	22 COOKED-FRESH-BAKED	413	P 1.000000	0.050000 MEAN FIELD RES.	7.00	0.003500	
14021AA	PARSNIPS	21 COOKED-NFS	7F0542	P 0.500000	0.050000 MAX. FIELD RES.	100.00	0.050000	
14030AA	PARSLEY ROOTS	00 NOT SPECIFIED	6E3416	P 0.250000	0.250000	100.00	0.250000	
15004AA	CORN, POP	21 COOKED-NFS	7F0542	P 0.250000	0.250000	1.00	0.002500	
15005AA	CORN, SHEET	10 RAW-FRESH OR NFS	7F0542	P 0.250000	0.050000 MEAN FIELD RES.	1.00	0.000500	
15005AA	CORN, SHEET	21 COOKED-NFS	7F0542	P 0.250000	0.050000 MEAN FIELD RES.	1.00	0.000500	
15029AA	SOYBEAN-SPROUTED	00 NOT SPECIFIED (NO CONSUMPTION)	356	P 1.000000	0.070000 MEAN FIELD RES.	8.00	0.005600	
16002AA	ASPARAGUS	21 COOKED-NFS	NOPE#	P 3.000000	2.350000 MEAN FIELD RES.	35.00	0.822500	
16002AA	ASPARAGUS	23 COOKED-FRESH-BOILED	NOPE#	P 3.000000	2.350000 MEAN FIELD RES.	35.00	0.822500	
24001AA	BARLEY	21 COOKED-NFS	7F0542	P 0.250000	0.250000 INSUF. DATA	100.00	0.250000	
24002EA	CORN, GRAIN-ENDO	10 RAW-FRESH OR NFS	7F0542	P 0.250000	0.050000 MEAN FIELD RES.	1.00	0.000500	
24002EA	CORN, GRAIN-ENDO	21 COOKED-NFS	7F0542	P 0.250000	0.050000 MEAN FIELD RES.	1.00	0.000500	
24002EA	CORN, GRAIN-ENDO	22 COOKED-FRESH-BAKED	7F0542	P 0.250000	0.050000 MEAN FIELD RES.	1.00	0.000500	
24002EA	CORN, GRAIN-ENDO	23 COOKED-FRESH-BOILED	7F0542	P 0.250000	0.050000 MEAN FIELD RES.	1.00	0.000500	
24002HA	CORN, GRAIN-BRAN	00 NOT SPECIFIED (NO CONSUMPTION)	7F0542	P 0.250000	0.050000 MEAN FIELD RES.	1.00	0.000500	
24002SA	CORN SUGAR	10 RAW-FRESH OR NFS	7F0542	P 0.250000	0.050000 MEAN FIELD RES.	1.00	0.000500	
24002SA	CORN SUGAR	21 COOKED-NFS	7F0542	P 0.250000	0.050000 MEAN FIELD RES.	1.00	0.000500	
24002SA	CORN SUGAR	22 COOKED-FRESH-BAKED	7F0542	P 0.250000	0.050000 MEAN FIELD RES.	1.00	0.000500	

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 528

DATE: 07/14/94 PAGE: 2

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Linuron Caswell #528 CAS No. 330-55-2 A.I. CODE: 035506 CFR No. 180.184	1yr feeding-dog NOEL= 0.7700 mg/kg LEL= 25.00 ppm ONCO: C (HED); C (CAG)	Hematology changes Positive onco in rat-intestinal cell tumors.	AD1 UF -->100 OPP RfD= 0.008000 EPA RfD= 0.002000	No data gaps. Q* not applicable.	HED complete 02/21/86 EPA verified 05/14/86 RfD/PR reviewed 02/21/92 RfD/PR reviewed 06/10/93 On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOXICITY ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
24003AA	OATS	21 COOKED-NFS 22 COOKED-FRESH-BAKED 23 COOKED-FRESH-BOILED	7F0542	P 0.250000 P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA INSUF. DATA	100.00 100.00 100.00	0.250000 0.250000 0.250000
24003AA	OATS	20 NOT SPECIFIED (NO CONSUMPTION)	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	100.00 100.00	0.250000 0.250000
24005AA	RYE-ROUGH	22 COOKED-FRESH-BAKED	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	100.00 100.00	0.250000 0.250000
24005GA	RYE-GERM	21 COOKED-NFS	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	100.00 100.00	0.250000 0.250000
24005WA	RYE-FLOUR	22 COOKED-FRESH-BAKED	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	100.00 100.00	0.250000 0.250000
24005WA	RYE-FLOUR	00 NOT SPECIFIED (NO CONSUMPTION)	7F0542	P 0.250000 P 0.250000	MAX. FIELD RES. INSUF. DATA	1.00 1.00	0.003000 0.002500
24006AA	SORGHUM	10 RAW-FRESH OR NFS	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
24007AA	WHEAT-ROUGH	21 COOKED-NFS	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
24007AA	WHEAT-ROUGH	22 COOKED-FRESH-BAKED	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
24007AA	WHEAT-ROUGH	23 COOKED-FRESH-BOILED	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
24007GA	WHEAT-GERM	10 RAW-FRESH OR NFS	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
24007GA	WHEAT-GERM	22 COOKED-FRESH-BAKED	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
24007HA	WHEAT-BRAN	10 RAW-FRESH OR NFS	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
24007HA	WHEAT-BRAN	21 COOKED-NFS	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
24007HA	WHEAT-BRAN	22 COOKED-FRESH-BAKED	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
24007WA	WHEAT-FLOUR	10 RAW-FRESH OR NFS	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
24007WA	WHEAT-FLOUR	21 COOKED-NFS	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
24007WA	WHEAT-FLOUR	22 COOKED-FRESH-BAKED	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
24007WA	WHEAT-FLOUR	25 COOKED-FRESH-FRIED	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
270020A	CORN, GRAIN-OIL	18 PROCESSED OIL	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
270030A	COTTONSEED-OIL	18 PROCESSED OIL	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
27003WA	COTTONSEED-MEAL	18 PROCESSED OIL	7F0542	P 0.250000 P 0.250000	INSUF. DATA INSUF. DATA	1.00 1.00	0.002500 0.002500
270100A	SOYBEANS-OIL	18 PROCESSED OIL	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023AA	SOYBEANS-UNSPEC	21 COOKED-NFS	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023AB	SOYBEANS-DRY	10 RAW-FRESH OR NFS	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023AB	SOYBEANS-DRY	21 COOKED-NFS	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023AB	SOYBEANS-DRY	23 COOKED-FRESH-BOILED	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023AB	SOYBEANS-DRY	25 COOKED-FRESH-FRIED	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023AB	SOYBEANS-DRY	31 COOKED-FRESH OR CANNED	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023AB	SOY-FL-FAT	21 COOKED-NFS	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023WA	SOY-FL-FAT	22 COOKED-FRESH-BAKED	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023WA	SOY-FL-FAT	31 COOKED-FRESH OR CANNED	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023WB	SOY-FL-LOW FAT	21 COOKED-NFS	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023AB	SOY-FL-DEFAT	10 RAW-FRESH OR NFS	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023AB	SOY-FL-DEFAT	21 COOKED-NFS	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023WA	SOY-FL-DEFAT	22 COOKED-FRESH-BAKED	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023WA	SOY-FL-DEFAT	51 COOKED-CANNED	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100
28023WC	SOY-FL-DEFAT	53 COOKED-CANNED-BOILED	356	P 1.000000 P 1.000000	0.070000 0.070000	3.00 3.00	0.002100 0.002100

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 528

DATE: 07/14/94

PAGE: 3

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
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FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
53001BA	BEEF-MEAT BYP	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001BA	BEEF-MEAT BYP	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001BB	BEEF-OTH ORGAN	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001BB	BEEF-OTH ORGAN	51 COOKED-CANNED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001DA	BEEF-DRIED	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001FA	BEEF-FAT	10 RAW-FRESH OR NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001FA	BEEF-FAT	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001FA	BEEF-FAT	22 COOKED-FRESH-BAKED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001FA	BEEF-FAT	23 COOKED-FRESH-BOILED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001FA	BEEF-FAT	24 COOKED-FRESH-BROILED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001FA	BEEF-FAT	25 COOKED-FRESH-FRIED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001KA	BEEF-KIDNEY	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001LA	BEEF-LIVER	25 COOKED-FRESH-FRIED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001LA	BEEF-LIVER	31 COOKED-FRESH OR CANNED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001MA	BEEF-LEAN	10 RAW-FRESH OR NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001MA	BEEF-LEAN	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001MA	BEEF-LEAN	22 COOKED-FRESH-BAKED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001MA	BEEF-LEAN	23 COOKED-FRESH-BOILED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53001MA	BEEF-LEAN	24 COOKED-FRESH-BROILED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53002BA	GOAT-MEAT BYP	00 NOT SPECIFIED (NO CONSUMPTION)	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53002BB	GOAT-OTH ORGAN	00 NOT SPECIFIED (NO CONSUMPTION)	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53002FA	GOAT-FAT	23 COOKED-FRESH-BOILED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53002FA	GOAT-FAT	25 COOKED-FRESH-FRIED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53002KA	GOAT-KIDNEY	00 NOT SPECIFIED (NO CONSUMPTION)	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53002LA	GOAT-LIVER	00 NOT SPECIFIED (NO CONSUMPTION)	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53002MA	GOAT-LEAN	23 COOKED-FRESH-BOILED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53002MA	GOAT-LEAN	25 COOKED-FRESH-FRIED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53003AA	HORSE	00 NOT SPECIFIED (NO CONSUMPTION)	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53003BA	SHEEP-MEAT BYP	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53005BB	SHEEP-OTH ORGAN	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53005FA	SHEEP-FAT	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53005KA	SHEEP-KIDNEY	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53005LA	SHEEP-LIVER	00 NOT SPECIFIED (NO CONSUMPTION)	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53005MA	SHEEP-LEAN	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53005MA	SHEEP-LEAN	31 COOKED-FRESH OR CANNED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53006BA	PORK-MEAT BYP	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53006BB	PORK-OTH ORGAN	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53006BB	PORK-OTH ORGAN	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53006FA	PORK-FAT	10 RAW-FRESH OR NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000
53006FA	PORK-FAT	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE	100.00	0.050000

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 528

DATE: 07/14/94

PAGE: 4

CHEMICAL	STUDY TYPE	EFFECTS		REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
		NOEL=	Hematology changes			
Linuron Caswell #528 CAS No. 330-55-2 A.I. CODE: 035506 CFR No. 180.184	1yr feeding-dog NOEL= 0.7700 mg/kg LEL= 25.00 ppm LEL= 3.4900 mg/kg ONCO: C (HED); C (CAG)		Positive onco in rat- interstitial cell tumors.	ADI UF -->100 OPP RfD= 0.008000 EPA RfD= 0.002000	No data gaps. Q* not applicable.	HED complete 02/21/86 EPA verified 05/14/86 RfD/PR reviewed 02/21/92 RfD/PR reviewed 06/10/93 On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE		ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
				STUDY TYPE	TEST TYPE				
53006FA	PORK-FAT	23 COOKED-FRESH-BOILED	356	P 1.000000	0.050000	MAX. RESIDUE		100.00	0.050000
53006FA	PORK-FAT	25 COOKED-FRESH-FRIED	356	P 1.000000	0.050000	MAX. RESIDUE		100.00	0.050000
53006FA	PORK-FAT	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	356	P 1.000000	0.050000	MAX. RESIDUE		100.00	0.050000
53006KA	PORK-KIDNEY	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE		100.00	0.050000
53006LA	PORK-LIVER	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE		100.00	0.050000
53006LA	PORK-LIVER	25 COOKED-FRESH-FRIED	356	P 1.000000	0.050000	MAX. RESIDUE		100.00	0.050000
53006MA	PORK-LEAN	21 COOKED-NFS	356	P 1.000000	0.050000	MAX. RESIDUE		100.00	0.050000
53006MA	PORK-LEAN	25 COOKED-FRESH-FRIED	356	P 1.000000	0.050000	MAX. RESIDUE		100.00	0.050000
53006MA	PORK-LEAN	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	356	P 1.000000	0.050000	MAX. RESIDUE		100.00	0.050000

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

DATE: 07/14/94

PAGE: 1

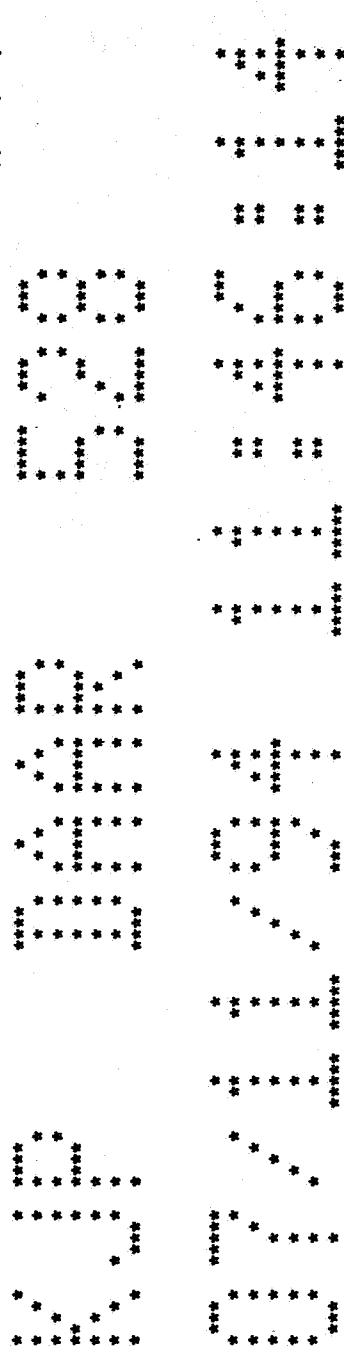
CHEMICAL INFORMATION		STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Linuron		1yr feeding-dog	Hematology changes	AD1 UF -->100 OPP RfD= 0.008000 EPA RfD= 0.002000	No data gaps.	HED completed 02/21/86 EPA verified 05/14/86 RfD/PR reviewed 02/21/92 RfD/PR reviewed 06/10/93
Caswell #528		NOEL= 0.7700 mg/kg				
CAS No. 330-55-2		LEL= 25.00 ppm				
A.I. Code: 035506		ONCO: C (HED); C (CAS)	Positive onco in rat-interstitial cell tumors.		Q* not applicable.	On IRIS.
CFR No. 180.184						

POPULATION SUBGROUP	TOTAL TMRC (MG/KG BODY WEIGHT/DAY)		NEW TMRC AS PERCENT OF RFD	DIFFERENCE AS PERCENT OF RFD	EFFECT OF ANTICIPATED RESIDUES	
	CURRENT TMRC*	NEW TMRC**			A/C	%RFD
U.S. POPULATION - 48 STATES	0.004493	0.004493	56.167438	0.000000	0.000185	2.31661
U.S. POPULATION - SPRING SEASON	0.004443	0.004443	55.157838	0.000000	0.000187	2.33211
U.S. POPULATION - SUMMER SEASON	0.004464	0.004464	55.800500	0.000000	0.000182	2.26946
U.S. POPULATION - FALL SEASON	0.004581	0.004581	57.258975	0.000000	0.000186	2.32619
U.S. POPULATION - WINTER SEASON	0.004492	0.004492	56.151050	0.000000	0.000186	2.32950
NORTHEAST REGION	0.004416	0.004416	55.194813	0.000000	0.000194	2.42649
NORTH CENTRAL REGION	0.004761	0.004761	59.265388	0.000000	0.000193	2.41435
SOUTHERN REGION	0.004364	0.004364	54.554863	0.000000	0.000164	2.05550
WESTERN REGION	0.004426	0.004426	55.319150	0.000000	0.000197	2.46581
HISPANIACS	0.004994	0.004994	62.428738	0.000000	0.000202	2.52129
NON-HISPANIC WHITES	0.004491	0.004491	56.139163	0.000000	0.000188	2.35133
NON-HISPANIC BLACKS	0.004247	0.004247	53.086938	0.000000	0.000158	1.96969
NON-HISPANIC OTHERS	0.004279	0.004279	53.435075	0.000000	0.000191	2.38655
NURSING INFANTS (< 1 YEAR OLD)	0.003166	0.003166	39.575138	0.000000	0.000272	3.39473
NON-NURSING INFANTS (< 1 YEAR OLD)	0.007485	0.007485	93.574763	0.000000	0.000485	6.06084
FEMALES (13+ YEARS, PREGNANT)	0.003095	0.003095	38.693063	0.000000	0.000112	1.40018
FEMALES (13+ YEARS, NURSING)	0.003468	0.003468	43.347713	0.000000	0.000144	1.80520
CHILDREN (1-6 YEARS OLD)	0.008608	0.008608	107.601238	0.000000	0.000343	4.28410
CHILDREN (7-12 YEARS OLD)	0.006431	0.006431	80.388625	0.000000	0.000235	2.93376
MALES (13-19 YEARS OLD)	0.004877	0.004877	60.966238	0.000000	0.000177	2.21255
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)	0.003914	0.003914	48.921513	0.000000	0.000137	1.70889
MALES (20 YEARS AND OLDER)	0.003962	0.003962	49.526175	0.000000	0.000185	2.31456
FEMALES (20 YEARS AND OLDER, NOT PREG. OR NURS)	0.003248	0.003248	40.603538	0.000000	0.000133	1.66818

*Current TMRC does not include new or pending tolerances.
**New TMRC includes new, pending, and published tolerances.

11:46 Monday, July 11, 1994 1

The SAS System



Linuron, tolerances

♀ 13+ only (remainder of run was discarded)
RDV = 0.025 mg/kg/day

= 0.001 * NOEL of 25 mg/kg/day (rabbit)

$$\frac{\text{NOEL}}{\text{exposure}} = \frac{25}{0.6 * 0.025}$$

$$= 1667$$

DETAILED ACUTE ANALYSIS INCLUDING AR'S: ALL STATISTICS BASED ON USERS' DAILY CONSUMPTION

STUDY	RDV	NOEL	SF	STUDY TYPE	SPECIES	EFF.	LEV.	CORE GRADE	DOC. NO.*
NAME: LINURON CASWELL NO: 528 PCAS NO: 00330-55-2	CFR NO: CFR180-184 SHAUGHNESSY NO: 035506	A	00000-0020	000005-0000	Chronic	Dog	Blank	Systemic	000000680*
STATISTICS CODES:		B	000125-0000	000125-0000	Chronic	Rat	Blank	Systemic	000000680*
RDV INFO: The LD value used in this analysis is 0.025 SF INFO: No Tolerance Data Are Used - Without User Modifications.		C	000665-0000	000665-0000	Terata	Rat	Blank	Systemic	000000676*

AR DATA: No User Modifications

LISTING OF RELEVANT FOODS & FOOD FORMS, ORDERED BY MENU CATEGORY. MENU PATTERN = 1

CHIMICAL IS ASSUMED TO BE UNIFORMLY DISTRIBUTED (WATER:01)

FOOD FORM CONTRIBUTION TO EXPOSURE :

11:46 Monday, July 11, 1994 18

DETAILED ACUTE ANALYSIS INCLUDING AR'S: ALL STATISTICS BASED ON USERS' DAILY CONSUMPTION

 *NAME: LINURON STUDY RDV NOEL SF STUDY TYPE SPECIES EFF. LEV. CORE GRADE DOC. NO.
 *CASHELL NO: 528 CFR NO: CFR180-184 00000-0020 00025-0000 000300 Chronic Dog Systemic Blank
 *CAS NO: 00330-55-2 SHAUGHNESSY NO: 035506 B 000125-0000 Chronic Rat Systemic Blank
 *STATUS CODES:
 *RDV INFO: The LD value used in this analysis is 0.025 MG/KG of BODY WEIGHT/DAY
 *FILE INFO: No Tolerance Data Are Used. Without User Modifications.
 ***** LISTING OF RELEVANT FOODS & FOOD FORMS, ORDERED BY MENU CATEGORY. MENU PATTERN = I
 CHEMICAL IS ASSUMED TO BE UNIFORMLY DISTRIBUTED (WATER:OIL)
 POPULATION = FEMALES(13+ YRS)

FOOD CODE	FOOD AND FOOD FORM DESCRIPTION	TOLERANCE DATA			AR DATA	DAILY MAXIMUM RESIDUE EXCL. AR) (INGL. AR)
		SOURCE (PPM)	TYPE	REF.		
	: NUMBER OF CONSUMER DAYS AS PERCENT OF POTENTIAL PERSON DAYS					
25 COOKED-FRESH-FRIED	0.00			1.0000		0.000000
53003AA HORSE 00 NOT SPECIFIED (NO CONSUMPTION)	0.00			1.0000		0.000000
53005BA SHEEP-MEAT BYPRODUCTS 21 COOKED-NFS	0.01			1.0000		1.196850
53005BB SHEEP (ORGAN MEATS)-OTHER 21 COOKED-NFS	0.00			1.0000		1.561385
53005FA SHEEP (BONELESS)-FAT 21 COOKED-NFS	0.68			1.0000		0.645631
53005KA SHEEP (ORGAN MEATS)-KIDNEY 21 COOKED-NFS	0.00			1.0000		0.573712
53005LA SHEEP (ORGAN MEATS)-LIVER 00 NOT SPECIFIED (NO CONSUMPTION)	0.00			1.0000		0.000000
53005MA SHEEP (BONELESS)-LEAN (W/O REMOVEABLE FAT) 21 COOKED-NFS	0.72 0.01			1.0000 1.0000		1.585926 1.586441
31 COOKED-FRESH OR CANNED						
53006BA PORK-MEAT BYPRODUCTS 21 COOKED-NFS	6.81			1.0000		0.257277
53006BB PORK(ORGAN MEATS)-OTHER 21 COOKED-NFS	5.18			1.0000		0.047448
26 COOKED-FRESH-PICKLED,CORNED,OR CURED	0.63			1.0000		0.020126
53006FA PORK(BONELESS)-FAT (INCLUDING LARD) 10 RAW-FRESH OR NFS	28.02			1.0000		0.005076
21 COOKED-NFS	91.98			1.0000		0.074021
23 COOKED-FRESH-BOILED	10.04			1.0000		0.127912
25 COOKED-FRESH-FRIED	36.82			1.0000		0.047808
26 COOKED-FRESH-PICKLED,CORNED,OR CURED	23.00			1.0000		0.215065
53006KA PORK(ORGAN MEATS)-KIDNEY 21 COOKED-NFS	0.00			1.0000		1.468429
53006LA PORK(ORGAN MEATS)-LIVER 21 COOKED-NFS	0.84 0.04			1.0000 1.0000		0.376348 1.479542
53006MA PORK(BONELESS)-LEAN (W/O REMOVEABLE FAT) 21 COOKED-NFS	29.29 3.04			1.0000 1.0000		0.448605 1.160671
26 COOKED-FRESH-PICKLED,CORNED,OR CURED	23.06			1.0000		0.556517
MENU CATEGORY 6: GRAINS(EXCL. RICE), SOYBEANS, VEG. OILS						
15000AA CORN,POP 21 COOKED-NFS	2.05			0.2500		0.057024
24001AA BARLEY						

DETAILED ACUTE ANALYSIS INCLUDING AR'S: ALL STATISTICS BASED ON USERS' DAILY CONSUMPTION						
*****11:46 Monday, July 11, 1994*****						
*NAME: LINURON	STUDY RDV	NOEL SF	STUDY TYPE	SPECIES	EFF. LEV.	CORE GRADE
*CASHELL NO: 528	CFR NO: CFR180.184 A	00000.0020	0000300	Dog	Blank	DOC. NO.
*CAS NO: 00330-55-2	SHAUGHNESSY NO: 035506 B	000125.000	000125.000	Rat	Systemic	0000000080
*STATUS CODES:	C	000625.000	000625.000	Terata	Blank	0000000060
RDV INFO: The LD value used in this analysis is 0.025 MG/KG of BODY WEIGHT/DAY						0000000676
*FILE INFO: No Tolerance Data Are Used -Without User Modifications.						
*****LISTING OF RELEVANT FOODS & FOOD FORMS ORDERED BY MENU CATEGORY. MENU PATTERN = I CHEMICAL IS ASSUMED TO BE UNIFORMLY DISTRIBUTED (WATER:OIL)						
POPULATION = FEMALES(13+ YRS)						
FOOD CODE	FOOD AND FOOD FORM DESCRIPTION		TOLERANCE DATA	AR DATA		
		: NUMBER OF CONSUMER DAYS AS PERCENT OF POTENTIAL PERSON DAYS	: VALUE (PPM) TYPE	: VALUE (PPM) REF.	DAILY MAXIMUM RESIDUE (EXCL. AR)	DAILY ANTICIPATED RESIDUE (INCL. AR)
24002EA	CORN GRAIN-ENDOSPERM	9.21	0.2500	0.2500	0.075363	0.075363
21	COOKED-NFS	0.14	0.2500	0.2500	0.087205	0.087205
10	RAW-FRESH OR NFS	19.41	0.2500	0.2500	0.017469	0.017469
21	COOKED-NFS	16.96	0.2500	0.2500	0.109551	0.109551
22	COOKED-FRESH-BAKED	2.65	0.2500	0.2500	0.117945	0.117945
23	COOKED-FRESH-BOILED					
24002HA	CORN GRAIN-BRAN	0.00	0.2500	0.2500	0.000000	0.000000
00	NOT SPECIFIED (NO CONSUMPTION)					
24003AA	OATS	0.24	0.2500	0.2500	0.016792	0.016792
21	COOKED-NFS	6.21	0.2500	0.2500	0.059833	0.059833
22	COOKED-FRESH-BAKED	3.37	0.2500	0.2500	0.144505	0.144505
23	COOKED-FRESH-BOILED					
24005AA	RYE-ROUGH	0.00	0.2500	0.2500	0.000000	0.000000
00	NOT SPECIFIED (NO CONSUMPTION)					
24005GA	RYE-GERM	0.40	0.2500	0.2500	0.020426	0.020426
22	COOKED-FRESH-BAKED					
24005WA	RYE-FLOUR	0.01	0.2500	0.2500	0.036207	0.036207
21	COOKED-NFS	4.36	0.2500	0.2500	0.022877	0.022877
22	COOKED-FRESH-BAKED					
24006AA	SORGHUM (INCLUDING MILO)	0.00	0.2500	0.2500	0.000000	0.000000
00	NOT SPECIFIED (NO CONSUMPTION)					
24007AA	WHEAT-ROUGH	0.01	0.2500	0.2500	0.111192	0.111192
10	RAW-FRESH OR NFS	2.47	0.2500	0.2500	0.075169	0.075169
21	COOKED-NFS	17.17	0.2500	0.2500	0.106500	0.106500
22	COOKED-FRESH-BAKED	4.87	0.2500	0.2500	0.137413	0.137413
23	COOKED-FRESH-BOILED					
24007WA	WHEAT-GERM	0.00	0.2500	0.2500	0.026222	0.026222
10	RAW-FRESH OR NFS	1.67	0.2500	0.2500	0.010404	0.010404
22	COOKED-FRESH-BAKED					
24007HA	WHEAT-BRAN					
10	RAW-FRESH OR NFS	0.09	0.2500	0.2500	0.015912	0.015912
21	COOKED-NFS	0.43	0.2500	0.2500	0.013499	0.013499
22	COOKED-FRESH-BAKED	5.25	0.2500	0.2500	0.050918	0.050918
24007WA	WHEAT-FLOUR					
10	RAW-FRESH OR NFS	0.24	0.2500	0.2500	0.036009	0.036009
21	COOKED-NFS	73.58	0.2500	0.2500	0.163371	0.163371
22	COOKED-FRESH-BAKED	60.57	0.2500	0.2500	0.134032	0.134032
25	COOKED-FRESH-FRIED	22.90	0.2500	0.2500	0.068520	0.068520
270020A	CORN GRAIN-OIL	96.95	0.2500	0.2500	0.004834	0.004834
18	PROCESSED OIL					
270030A	COTTONSEED-OIL	96.90	0.2500	0.2500	0.004298	0.004298

13

DETAILED ACUTE ANALYSIS INCLUDING AR'S: ALL STATISTICS BASED ON USERS' DAILY CONSUMPTION
 NAME: LINURON
 CASWELL NO: 528 CFR NO: CFF180.184 STUDY NOEL SF STUDY TYPE SPECIES EFF. LEV.
 VACAS NO: 00330-55-2 SHAUGHNESSY NO: 035506 A 0000025.000 000300 Chronic Dog Systemic
 STATUS CODES:
 RDV INFO: The LD value used in this analysis is 0.025 MG/KG of BODY WEIGHT/DAY

*FILE INFO: No Tolerance Data Are Used.-Without User Modifications.

LISTING OF RELEVANT FOODS & FOOD FORMS, ORDERED BY MENU CATEGORY. MENU PATTERN = 1
 CHEMICAL IS ASSUMED TO BE UNIFORMLY DISTRIBUTED (WATER:OIL)

POPULATION = FEMALES(13+ yrs)

FOOD CODE	FOOD AND FOOD FORM DESCRIPTION	TOLERANCE DATA			AR DATA	DAILY MAXIMUM RESIDUE (EXCL. AR)	DAILY ANTICIPATED RESIDUE (INCL. AR)
		NUMBER OF CONSUMER DAYS AS PERCENT OF POTENTIAL PERSON DAYS	VALUE (PPM) REF.	SRC (PPM) TYPE			
2703WA	COTTONSEED-MEAL	0.90	0.2500	0.001535			
27010DA	Soybeans-Oil	96.93	1.0000	0.246977			
18	PROCESSED OIL						
28023AA	Soybeans-Unspecified	0.58	1.0000	0.076364			
21	COOKED-NFS						
28023AB	Soybeans-Mature, SEEDS DRY	0.17	1.0000	0.153447			
10	RAW-FRESH OR NFS	0.02	1.0000	0.762657			
21	COOKED-NFS	0.02	1.0000	0.396901			
23	COOKED-FRESH-BOILED	0.24	1.0000	0.103971			
25	COOKED FRESH-FRIED	0.02	1.0000	0.374443			
31	COOKED-FRESH OR CANNED	0.02	1.0000				
28023MA	Soybeans-Flour, Full Fat	1.43	1.0000	0.026648			
21	COOKED-NFS	2.09	1.0000	0.037984			
31	COOKED-FRESH OR CANNED	4.74	1.0000	0.010058			
28023NB	Soybeans-Flour, Low Fat	0.89	1.0000	0.083380			
21	COOKED-NFS						
28023NC	Soybeans-Flour, Defatted	0.50	1.0000	0.203203			
10	RAW-FRESH OR NFS	1.77	1.0000	0.035471			
21	COOKED-NFS	3.62	1.0000	0.111848			
22	COOKED-FRESH-BAKED	0.14	1.0000	0.085212			
31	COOKED-CANNED	3.41	1.0000	0.048689			
53	COOKED-CANNED-BOILED						
MENU CATEGORY 7: STARCHY VEG., INCL. RICE, SWEETPOTATO							
14013AA	POTATOES(WHITE)-WHOLE						
10	RAW-FRESH OR NFS	1.52	1.0000	2.161559			
21	COOKED-NFS	8.16	1.0000	1.620356			
22	COOKED-FRESH-BAKED	5.26	1.0000	2.348726			
14013AB	POTATOES(WHITE)-UNSPECIFIED						
22	COOKED-FRESH-BAKED	0.70	1.0000	0.009803			
14013AC	POTATOES(WHITE)-PEELED						
21	COOKED-NFS	15.72	1.0000	0.334667			
22	COOKED-FRESH-BAKED	2.27	1.0000	1.463754			
23	COOKED-FRESH-BOILED	14.18	1.0000	2.194151			
25	COOKED-FRESH-FRIED	12.54	1.0000	1.208204			
14013DA	POTATOES(WHITE)-DRY						
10	RAW-FRESH OR NFS	0.08	1.0000	3.112850			
31	COOKED-FRESH OR CANNED	0.01	1.0000	0.123348			
14013HA	POTATOES(WHITE)-PEEL ONLY						

DETAILED ACUTE ANALYSIS INCLUDING AR'S: ALL STATISTICS BASED ON USERS' DAILY CONSUMPTION							11:46 Monday, July 11, 1994, 21		
NAME: LINURON		STUDY	NOEL	SF	STUDY TYPE	SPECIES	EFF. LEV.	CORE GRADE	DOC. NO.
CASWELL NO:	528	CFR NO: CFR180-184	A	00000-0020	000023-000	000300 Chronic	Dog	Blank	0000000080*
CAS NO:	00330-55-2	SHAUGHNESSY NO:	035506	B	000125-000	000625-000	Rat	Systemic	0000000080*
STATUS CODES:	C					Terata	Rat	Systemic	0000000076*
RDV INFO:	The LD value used in this analysis is 0.025 MG/KG of BODY WEIGHT/DAY								
FILE INFO:	No Tolerance Data Are Used-Without User Modifications.								
LISTING OF RELEVANT FOODS & FOOD FORMS, ORDERED BY MENU CATEGORY. MENU PATTERN = I									
CHEMICAL IS ASSUMED TO BE UNIFORMLY DISTRIBUTED (WATER:OIL)									
POPULATION = FEMALES(13+ YRS)									
FOOD CODE		FOOD AND FOOD FORM DESCRIPTION		TOLERANCE DATA		AR DATA		DAILY MAXIMUM RESIDUE	
CODE		NUMBER OF CONSUMER DAYS AS PERCENT OF POTENTIAL PERSON DAYS		SOURC (PPM) TYPE		VALUE (PPM) REF.		(EXCL. AR)	
22	COOKED-FRESH-BAKED	0.00		1.0000		1.0000		0.752606	
14021AA	PARSNIPS	0.08		0.5000		0.5000		0.794593	
14030AA	PARSLEY ROOTS	0.00		0.2500		0.2500		0.000000	
00	NOT SPECIFIED (NO CONSUMPTION)								
MENU CATEGORY 9: OTHER VEGETABLES, INCL. BRASSICA									
13002AA	CELERY	22.60		0.5000		0.5000		0.110651	
10	RAW-FRESH OR NFS	5.07		0.5000		0.5000		0.115477	
21	COOKED-NFS								
13016AA	FENNEL								
00	NOT SPECIFIED (NO CONSUMPTION)	0.00		0.5000		0.5000		0.000000	
13022AA	PARSLEY								
10	RAW-FRESH OR NFS	3.20		0.2500		0.2500		0.008458	
21	COOKED-NFS	3.92		0.2500		0.2500		0.009134	
53	COOKED-CANNED-BOILED	0.68		0.2500		0.2500		0.006260	
14003AA	CARROTS								
10	RAW-FRESH OR NFS	15.63		1.0000		1.0000		0.249693	
21	COOKED-NFS	9.80		1.0000		1.0000		0.422598	
23	COOKED FRESH-BOILED	2.32		1.0000		1.0000		0.305230	
31	COOKED-FRESH OR CANNED	5.30		1.0000		1.0000		0.189668	
51	COOKED-CANNED	4.11		1.0000		1.0000		0.840949	
15005AA	CORN, SWEET								
10	RAW-FRESH OR NFS	0.06		0.2500		0.2500		0.102562	
21	COOKED-NFS	10.04		0.2500		0.2500		0.337412	
31	COOKED-FRESH OR CANNED	1.50		0.2500		0.2500		0.407401	
15029AA	SOYBEANS-SPROUTED SEEDS								
00	NOT SPECIFIED (NO CONSUMPTION)	0.00		1.0000		1.0000		0.000000	
16002AA	ASPARAGUS								
21	COOKED-NFS	0.78		3.0000		3.0000		5.184106	
23	COOKED-FRESH-BOILED	0.10		3.0000		3.0000		5.133772	
MENU CATEGORY 12: SUGARS									
24002SA	CORN SUGAR								
10	RAW-FRESH OR NFS	6.65		0.2500		0.2500		0.024011	
21	COOKED-NFS	43.22		0.2500		0.2500		0.040868	
22	COOKED-FRESH-BAKED	13.73		0.2500		0.2500		0.015388	

65

DETAILED ACUTE ANALYSIS INCLUDING AR'S: ALL STATISTICS BASED ON USERS' DAILY CONSUMPTION

 * NAME: LINURON
 * CASHELL NO: 528
 * CAS NO: 0030-55-2
 * STATUS CODES:
 * AR INFO: The LD value used in this analysis is 0.025 MG/KG of BODY WEIGHT/DAY
 * FILE INFO: No Tolerance Data Are Used -Without User Modifications.
 * FILE INFO: No User Modifications.

 **** 11:46 *****
 **** JULY 11, 1994 28 ****

STUDY	RDV	NOEL	SF	STUDY TYPE	SPECIES	EFF.	LEV.	CORE GRADE	DOC. NO.
CFR NO: CFR180-184	A	00000.0020	00025.000	000300 Chronic	Dog	Blank	Systemic	Blank	000000680*
SHAUGHNESSY NO: 035506 B			000125.000	Chronic	Rat	Blank	Systemic	Blank	000000680*
	C		000625.000	Terata	Rat	Blank	Systemic	Blank	000000680*

 **** AR DATA: No User Modifications ****

FEMALES(13+ yrs)	ESTIMATED % OF POTENTIAL	MEAN DAILY RESIDUE CONTRIBUTION PER USER-DAY
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ESTIMATES BASED ON TOLERANCES: ANTICIPATED RESIDUES	PERSON DAYS THAT ARE USER-DAYS	MG/KG BODY WEIGHT/DAY	AS PERCENT OF RDV	
			0.00	0.00
	0.00	0.000000	0.00	0.00
	0.52	0.000005	0.00	0.00
	1.00	0.000010	0.00	0.00